IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

SOUTHCO, INC.	:	CIVIL ACTION
	:	
v.	:	
	:	
FIVETECH TECHNOLOGY INC.	:	NO. 10-1060

MEMORANDUM

McLaughlin, J. March 23, 2012

The plaintiff in this case is a manufacturer of hardware, including "panel" or "captive" screws. The defendant is a competitor of Southco. Southco alleged patent infringement by Fivetech on three of its patents. Fivetech moved for partial summary judgment on clams 16 and 17 in one of these patents. The Court will grant Fivetech's motion. Also pending before the Court is Fivetech's Motion to Strike certain affidavits and exhibits submitted by Southco in its response to Fivetech's motion. The Court will deny this motion.

I. Procedural History

The plaintiff, Southco Inc., is a manufacturer of hardware, including panel screws. Panel screws are also known as "captive screws" or "fastener screws." Compl. ¶¶ 6-7. The defendant, Fivetech, is a competitor of Southco. Answer ¶¶ 2, 7. Southco alleges that Fivetech has infringed on its patents and trademarks through the sale of Fivetech Series 46 captive fasteners ("Series 46 screws"). More specifically, Southco

alleges infringement on its patent number 5,851,095 ("the '095 patent") issued on December 22, 1998; on its patent number 6,280,131 ("the '131 patent") issued on August 28, 2001; on its patent number 6,468,012 ("the '012 patent") issued on October 22, 2002; and on its Trademark registrations numbers 2,478,685 and 3,678,153. Compl. ¶¶ 11-15 ('095 patent), 20-23 ('131 patent), 28-31 ('012 patent), 36-44 (trademark). In response, Fivetech alleged that Southco engaged in tortious interference with its customers.

On January 24, 2012, the Court granted summary judgment in favor of Fivetech on 30 of the patent claims: all of the claims in the '131 Patent, and fifteen of the seventeen claims in the '095 Patent. This motion addresses the remaining two claims in the '095 Patent.

II. Fivetech's Motion to Strike

Pursuant to Rule 56(e), Fivetech moves to strike parts of Southco's response to Fivetech's summary judgment motion, specifically portions of the declarations of Antranig Baronian, Paul Soldo, and Dr. John Pratt. Fivetech objects to this material as inadmissible and irrelevant to the question of infringement. The Court finds that because some of the affiants have personal knowledge of each of the exhibits, the affidavits and exhibits are likely reducible to admissible evidence, the standard for admissibility at the summary judgment stage. Fed. R. Civ. P. 56(c)(1)(A). The Court is not persuaded that the

materials need to be struck, at the summary judgment stage, on grounds of relevance. Therefore the Court will deny Fivetech's Motion to Strike.

III. Summary Judgement Record

At issue in this summary judgment motion is the process through which the metal screw is fixed to the plastic knob of the captive screw. This process is described in claims 16 and 17 of the '095 Patent:

> 16. For a captive screw having a knob, a screw and a ferrule, a method of rigidly attaching the knob to the screw comprising:
> a) providing a screw having a head having a head diameter and an annular chamfer around the base of the head of the screw and a plurality of protrusions protruding from the head of the screw,
> b) providing a knob having an internal diameter generally equal to or smaller than the diameter of the head of the screw; and
> c) attaching the screw into the knob by displacing knob material into the chamfer around the base of the head of the screw and by creating a press fit by displacing knob material caused by the protrusions on the head of the screw.
> 17. The method of claim 16, wherein the head of the screw has an annular flange at the lower end of the head of the screw, the flange has a chamfer around the base, and the protrusions protrude from the annular flange on the head of the screw.

See Motion for Partial Summary Judgment, Docket No. 92, Exhibit A at 13 (emphasis omitted)

The Fivetech creates the Series 46 screw by an injection molding process. Def. Br., Ex. B ("Wang Decl.") ¶ 5. In the molding process, melted plastic material is injected through a pipe into the a mold cavity containing a screw. The plastic material surrounds and covers the screw head in the

cavity. The plastic is then hardened to form a solid plastic knob encased over the screw head. Id. ¶¶ 5-6.

IV. Analysis[1]

In a patent infringement case, the court proceeds in two steps. In the first step, the court must construe the claims in the patent. Because a patent is a legal instrument, this is a question of law. The second step is a question of fact to be decided by a jury: whether the patent's claims are infringed. Markman v. Westview Instruments, Inc., 517 U.S. 370, 384-85 (1996).

A. Construing the Claim

In the first step of an infringement claim, the court must determine the scope and meaning of the asserted patent claims. Markman, 517 U.S. at 372-74; Searfoss v. Pioneer Consol.

[1] A party is entitled to summary judgment if there "is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The moving party bears the initial burden of demonstrating the absence of any genuine issue of material fact, which may be satisfied by demonstrating the party who bears the burden of proof lacks evidence to support his case. Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986). In making its determination, the court must consider the evidence in a light most favorable to the nonmoving party. Del. Valley Floral Grp., Inc. v. Shaw Rose Nets, LLC, 597 F.3d 1374, 1378-79 (Fed. Cir. 2010). Once a properly supported motion for summary judgment is made, the burden of production shifts to the nonmoving party, who must set forth specific facts showing that there is a genuine issue for trial. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 250 (1986).

Corp., 374 F.3d 1142, 1148 (Fed. Cir. 2004).[2] The specific language used in the claim section of the patent is the focus of this inquiry. "Claim construction begins and ends in all cases with the actual words of the claim." Becton, Dickinson & Co. v. Tyco Healthcare Group, LP, 616 F.3d 1249, 1254 (Fed. Cir. 2010). The language of a claim is given the "ordinary and customary meaning" as understood by a person of ordinary skill in the art in question, unless the patentee provided a different definition for the term. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc); Searfoss, 374 F.3d at 1149. There is a heavy presumption that claim language carries its ordinary and customary meaning.

The court may also consider other intrinsic evidence when construing the claim, such as specifications included in the patent and prior prosecution of the patent. When considering portions of the patent other than the claims, the Federal Circuit has cautioned that courts should not "import into a claim limitations that are not part of the claim." Superguide Corp. v. DirecTV Enters., 358 F.3d 870, 875 (Fed. Cir. 2004). Claims should rarely be limited by the patent's preferred embodiment description or other specifications in the patent not included in the claim language. Tasket v. Dentlinger, 344 F.3d 1337, 1340

[2] The Court held oral argument on this motion on February 28, 2012. As with the prior summary judgment motion in this case, the parties choose not to present evidence at a hearing, instead relying on their arguments and the evidence submitted with their motion filings. Tr. 2/28/12 at 17-18.

(Fed. Cir. 2003); Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898 (Fed. Cir. 2004).

Patent language can, however, be helpful. A person of ordinary skill is deemed to read the claim term "in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313 (quoting Multiform Desiccants, Inc. v Medzam, Ltd., 133 F.3d 1473, 1477 (Fed. Cir. 1998)). Claims should be read in the context of surrounding words and as part of a "fully integrated written instrument." Phillips, 415 F.3d at 1314-15. Claims "must be read in view of the specification . . . [which] is always highly relevant to the claim construction analysis. Usually, it is dispositive." Id. at 1315.

The same is true of the prosecution history of the claim. Prosecution history includes arguments distinguishing the patented device from prior art in response to a rejection of the patent claim. Phillips, 415 F.3d at 1317. Although the prosecution history may lack the specificity of a claim, it can "inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention." Id. Interpretations which are "disclaimed during prosecution" cannot be included when the claim is construed against an accuser. Id. "Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers." Southwall Tech. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed. Cir. 1995).

Extrinsic evidence, such has dictionaries, treaties, expert testimony, and inventor testimony, can also be considered by the court construing the claims, but are less significant than the patent itself in determining the legally operative language. Phillips, 415 F.3d at 1317. Extrinsic evidence cannot be relied upon to "vary or contradict the clear meaning of terms in the claims." Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1369 (Fed. Cir. 2003).

B. Determining Infringement

The second step, determining infringement, is a factual question to be decided by a jury. There are two types of infringement: literal infringement and infringement under the doctrine of equivalents. Literal infringement requires that every limitation of the patent claim must be found exactly the same in the accused product. If any claim limitation is missing from the accused device, there is no literal infringement. Becton, 616 F.3d at 1253. "There can be no literal infringement where a claim requires two separate structures and one such structure is missing from an accused device." Id. at 1255-56. Infringement under the doctrine of equivalents exists when "the accused device contains an 'insubstantial' change from the claimed invention" or "the element of the accused device performs substantially the same function in substantially the same way to obtain the same result." TIP Systems, LLC v. Phillps & Brooks/Gladwin, Inc., 529 F.3d 1364, 1376 (Fed. Cir. 2008).

Usually, the court should compare the accused product to the claims of the patent, and not a commercial embodiment of the claimed device. Catalina Lighting v. Lamps Plus, 295 F.3d 1277, 1286 (Fed. Cir. 2002). There is no blanket prohibition, however, against comparing the accused device to a commercial embodiment of the patented device. Adams Respiratory Therapeutics, Inc. v. Perrigo Co., 616 F.3d 1283, 1288 (Fed. Cir. 2010). "[W]hen a commercial product meets all of the claim limitations, then a comparison to that product may support a finding of infringement." Id. at 1289.

C. Claims 16 and 17 of the '095 Patent

Fivetech argues that when properly construed, the Series 46 fastener is not created by the process claimed in the '095 Patent. Southco argues that Fivetech either misconstrues the claims or that the Fivetech process does infringe on claims 16 and 17.

Fivetech makes four arguments that it does not infringe on claims 16 and 17: The Fivetech process does not follow the process described in the '095 Patent because Fivetech does not "attach" a screw to an existing knob, does not create a "press-fit" as described in the claim and does not "displace" knob material as described in the patent claim. Fivetech also argues that the Series 46 screws do not contain a "plurality of protrusions" recited by the '095 Patent.

1. Attaching a Screw to an Existing Knob

Claim 16 describes fitting a screw into a knob in the following way: "a) providing a screw . . . . b) providing a knob . . . and c) attaching the screw into the knob." Fivetech argues that it does not follow these steps, because it does not fit a screw into an existing knob. Rather, melted plastic is molded around a screw head to form the knob on the Series 46 device.

Southco argues that claim 16 should not be construed to require a series of steps. Instead, Southco argues that the claim covers a process in which a final, completed knob is created and attached to the screw simultaneously, which is what happens in the commercial embodiment of the Southco process. Pl. Resp., Ex. 3 ("Pratt Decl.") ¶ 20, 21. If that interpretation is adopted, Southco argues that the Fivetech process infringes on the Southco claim.

Usually, if the steps described in a claim do not recite an order, they are not construed to require one. There is an exception "when the method steps implicitly require that they be performed in the order written." To determine if the steps implicitly require an order, the court applies a two-part test. Altris, Inc. v. Symantec Corp., 318 F.3d 1363, 1369-70 (Fed. Cir. 2003). First, the court "look[s] to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written." Id. If not, the court performs the second step, "look[ing] to the rest of the specification to

determine whether it directly or implicitly requires such a narrow construction." Id. (internal quotations omitted).

For example, in Mantech Environmental. Corp., the Federal Circuit held that the steps of a method for eliminating contamination in water must be performed in the order listed, because each step referred to "said" mixture created by the step before. Mantech Envtl. Corp. v. Hudson Envtl. Servs., 152 F.3d 1368, 1376 (Fed. Cir. 1998). In Altris, the Federal Circuit determined that neither the grammar, logic, nor conditional language in the claim required that a "setting" step occur after a "booting" step in a case about computer technology, because neither intrinsic evidence or the testimony of the experts supported the argument that the order of these steps was important. 318 F.3d at 1371. Thus the court declined to read an order into those steps in the claim.

In claim 16, there is no order of steps recited, but the Court finds that logic dictates that the claim describes the existence of a knob to which the screw is attached. The claim says "attaching the screw into the knob." It also describes the knob as "a knob having an internal diameter generally equal to or smaller than the diameter of the head of the screw." This level of description of the knob must be read to require that both a screw and a knob exist, even if incomplete, before the two are attached. That is not the case with the Fivetech process, where a knob is formed around an existing screw. No reasonable jury

could conclude that the Fivetech process infringes on the Southco claim.[3]

2. Displacement

In a similar vein, Fivetech argues that Fivetech's method of creating its captive screws by creating a knob around a screw head does not include "displacing knob material," described in claim 16. Southco argues that displacement occurs in the Fivetech process both as the melted knob material enters the mold and moves around the protrusions on the screw head and as the plastic material cools and shrinks around the screw head.

To displace means "to remove from the usual or proper place: put out of place" or "to crowd out: take the place of especially by force: move from place by occupying the space." Merriam-Webster's Third New International Dictionary Unabridged (2002); see also Pratt Decl. ¶ 22 (defining displace as "to change the place or position of," or "to take the place of; supplant."). In order for something to be displaced, it must have been in one place and then been moved from that place. In the Fivetech device, the melted plastic is injected around the head of the screw already in the mold. The knob forms and

[3] The Court also notes that the '095 Patent claim does not refer to any "completion" of the knob. In the Southco reading of the claim, the only completion of the knob seems to be the attaching the knob to the screw. Fivetech creates a knob around the screw, it does not connect a screw to a complete or incomplete knob. Even under Southco's strained construction of the claim, no reasonable jury could conclude that Fivetech infringes on the Southco process.

hardens around the screw. At no time does the screw occupy a place once occupied by knob material. Thus, the knob material in the Fivetech process is never displaced by the screw. Southco's assertion that melted plastic flowing and shrinking around an existing object is displaced is not supported by any definition of the word, including the one it provides to the Court. No reasonable jury could conclude that Fivetech's process includes displacing knob materials.

3. Process: Press-fit

Claim 16 of '095 Patent the describes "attaching the screw into the knob . . . by creating a press fit" and the specifications describe "providing a press fit of the screw to the inner surface of the knob where the screw is pressed into the knob." Fivetech argues that one skilled in the art would understand this description to require that the knob and screw be attached by means of press-fitting, which it does not employ. Southco seems to agree that the patent describes a press-fit, but argues that the insertion molding process used by Fivetech creates a press-fit and employs a press.

On behalf of Southco, Dr. Pratt explains that the insert molding used by the Fivetech process creates an interference fit, which is the same as a press-fit. Pratt Decl. ¶ 11. He also explains that "press fit" and "interference fit" refer to the "type of joint" "regardless of the method or apparatus used to join the parts." Pratt Decl. ¶ 12.

Fivetech argues that the term "press fit" is sufficiently clear that the Court can construe it without resorting to extrinsic evidence such expert opinions. Although the Court agrees with Fivetech that the '095 Patent describes "pressing" a screw head into a knob in order to join the two, the Court does not believe the term "creating a press fit" can be construed without some extrinsic evidence.

Even if this Court could construe the claim as Fivetech wishes, Dr. Pratt also explains that the insert molding used by Fivetech and press fit molding described in the claim, to the extent they are not the same, are equivalent processes. Pratt Decl. ¶¶ 15, 17-19. This testimony raises a question of fact on whether the Fivetech process infringes on the Southco patent under the doctrine of equivalents.

4. Protrusions

Finally, Claim 16 describes "a screw having . . . a plurality of protrusions protruding from the head of the screw." The preferred embodiment of the '095 Patent describes "four protrusions . . ., evenly spaced around the outer circumference of the screw head . . . [that are] generally square or rectangular in cross-section." '095 Patent at 3:28-23. Fivetech argues that the screws used in the Series 46 device lack these protrusions, because they contain only "score lines or knurling." In addition, Fivetech argues that in 2000, Southco distinguished the protrusions in the '095 Patent from "scored lines," thus

disclaiming that its claims covered screws with scored lines or knurls. Southco argues that knurls or score lines are sufficient to meet the claimed protrusions, which the patent does not define, and that its statements in 2000 did not disclaim any particular type of protrusion.

In 2000, the Patent Office reexamined and rejected the original claims 16 and 17 in the '095 patent as unpatentable because of earlier art, referred to as the Huck Reference. See Def. Br., Ex. A ("Allen Decl."), Ex. 1. Southco amended the patent and argued that as amended, its claims differed from the Huck reference in several ways. One of those was that the "Huck reference . . . fails to disclose the protrusion claimed in the patent." Arguing that these protrusions are necessary to establish the "rigid" attachment between screw and knob claimed in the patent, Southco explained that "[t]he patent itself contrasts the claimed protrusions from a mere knurl. . . . a knurled surface without more does not provide the protrusions called for by the patent. It must produce a rigid connection." Allen Decl., Ex. 2 at 5-6.

The Court agrees that Southco's focus in the reexamination argument was on the rigid attachment between screw and knob. The Court therefore cannot conclude that Southco affirmatively "disclaimed during prosecution" any process involving a screw with knurls. Phillips, 415 F.3d at 1317.

The Patent requires only that the screw head have protrusions. Neither party defines either the terms knurl or

protrusion. A "knurl" is "a small protuberance, excrescence, or nob" or "a small ridge or bead; especially: one of a series of small ridges or beads used on a usually metal surface (as of a thumbscrew) as a means of ensuring a firm grip or as a decorative feature." Merriam-Webster, supra. A protrusion is "something that protrudes," defined as "to jut out beyond the surrounding surface or context." Id. Although it is arguable that the claimed protrusions are different in size and function than small ridges or knurls around the edge of the screw, it is equally reasonable to conclude that a knurl is a type of protrusion. Based on this evidence, a reasonable jury could conclude that a knurl is a type of protrusion.[4]

Because the Court is persuaded that no reasonable jury could conclude that the Fivetech process infringes on the properly construed claims 16 and 17 of the '095 Patent, as the Fivetech process does not attach a screw to a knob or displace knob material, the Court will grant the defendant's motion for partial summary judgment.

An appropriate order shall issue.

[4] The Court also notes that in a document submitted to the Court, in an attempt to obtain reexamination of Southco's '012 Patent, Fivetech recently argued to the Patent Office that knurls and protrusions were the same. See Fivetech Technology Inc.'s Motion to Bifurcate and Stay, Docket No. 153, Ex. A.